

5/42

DART AEROSPACE LTD	Work Order:	24341
Description: Cover	Part Number:	D3138-2
Dwg: D3138 Rev. B RF 05.12.08 PER QSI 042	Qty:	A10 2 Page 1 of 1

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveler	PL	05.09.26	A10
2	PG	Issue P/O: 2008728 Email or Ship DXF file to vendor Laser Cut D3138-2 flat pattern per Dwg D3138 Possible Supplier: GFI or Industrial Laser Material release note is required	PL	05/09/27	10
3	RG	Receive and Inspect for transit damage Ensure material release note is attached	CL	05/11/18	10
4	QC6	Inspect dimensions as per Dwg D3138	PL	05-11-28	05
5	GA	Deburr	PL	05/12/05	10
6	GA	Bend as per Dwg D3138	SB	05/12/05	10
7	QC5	Inspect work to Step 6	PL	05-12-13	3
8	FP	Chemical Conversion Coat per QSI 005 4.1	AM	06-03-21	3
9	FP	Powder Coat Grey Sandtex (Ref: 4.3.5.6) per QSI 005 4.3	AM	06-03-21	3
10	QC3	Inspect Powder Coat	PL	06/03/22	3
11	ST	Identify and Stock with part number and batch number using fine point permanent ink marker as per view B-B top surface Dwg D3138	PL	06/03/22	3
12	AC	Cost / part: ST8L	PL	06/03/22	(3)
13	DC	Close W/O Inspect Level 21	PL	06/03/23	(3)

Rev	Date	Change	Revised By	Approved
A	02.05.24	New issue	NG	
B	04.11.29	Made by Laser Cut	KJ/RF	PL

RELEASED
04/11/30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector
05-11-29	4	New dimension added to Dwg. permanent change <i>J</i>				RF 05-11-29	2 05-11-29

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____

PAR #: _____

Fault Category: _____

NCR: Yes No DQA

06/03/03

Date: _____

NOTE: Date & initial all entries

QA: N/C Closed: _____

Date: _____

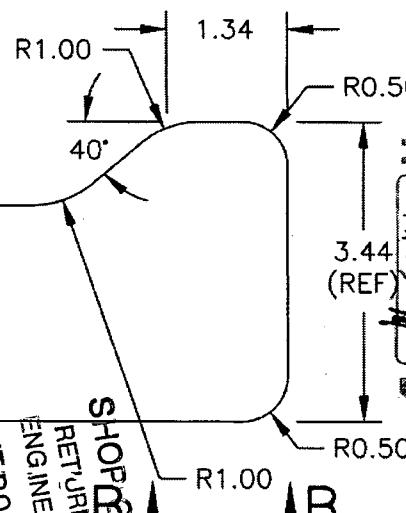
DART

DESIGN RT	DRAWN BY RT	DART AEROSPACE LTD
CHECKED <i>[initials]</i>	APPROVED <i>[initials]</i>	DRAWING NO. D3138
DATE 04.09.20	TITLE COVER	REV. B
A B	02.04.18 04.09.20	NEW ISSUE RE-DESIGN

SHEET 1 OF 1
SCALE 1:10

RELEASED

04.09.20

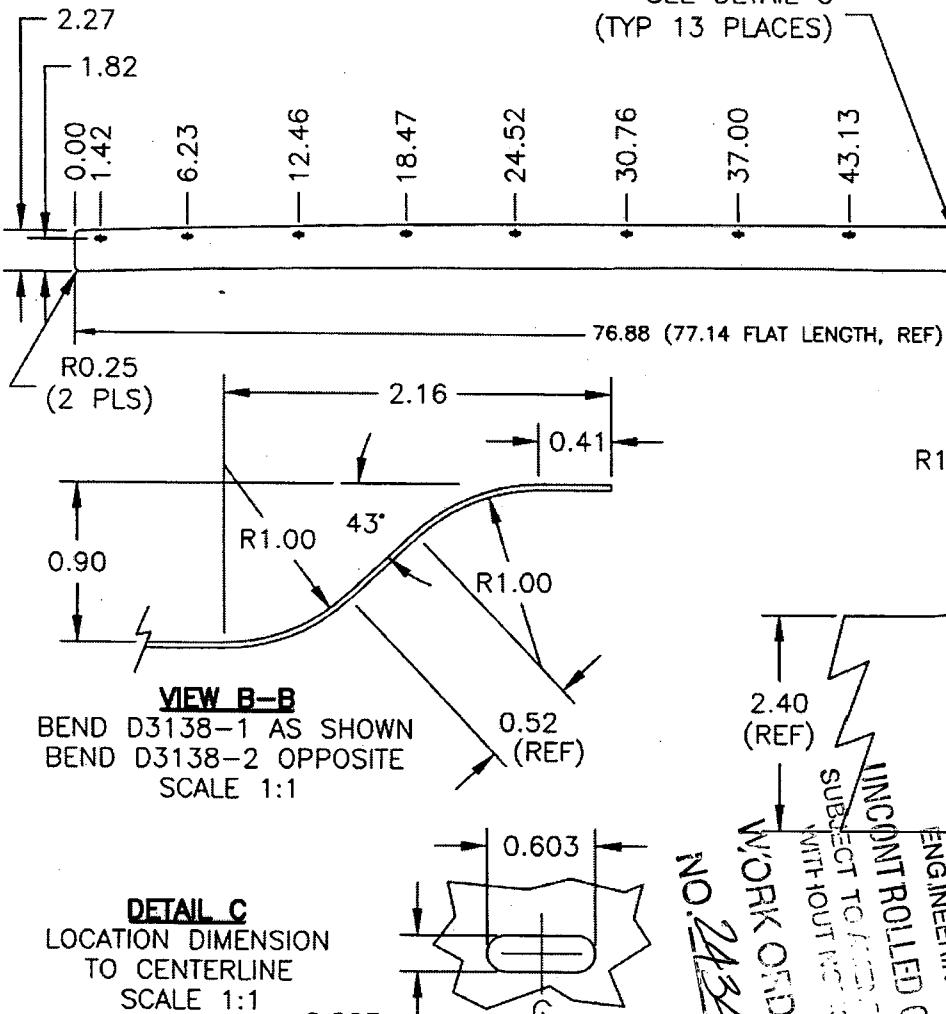


DETAIL A
FLAT PATTERN SHOWN
SCALE 1:2

NO. 24341

UNCONTROLLED COPY
SUBJECT TO AMENDMENT
RETURN TO
ENGINEERING
WITHOUT NOTICE

SEE DETAIL C
(TYP 13 PLACES)



DETAIL C
LOCATION DIMENSION
TO CENTERLINE
SCALE 1:1

D3138-1 COVER (SHOWN. REPLACES PREMIER P/N B30-23000-205)

D3138-2 COVER (BEND OPPOSITE. REPLACES PREMIER P/N B30-23000-206)

- 1) MATERIAL: 2024-T3 SHEET (QQ-A-250/4) 0.032 THICK (REF DART SPEC. M2024T3S.032)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GREY SANTEX (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) IDENTIFY WITH DART P/N USING FINE POINT PERMANENT INK MARKER

Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

Sep 26, 2005
10:48 am

Work Order No : 0024341
Project Name : D3138-2
Project For : WK542
Work Order Type : Main
Main WO Number :
House Part Number : D3138-2
Description : Cover
Manufactured : Yes
Amount Req'd : 4
Amount Done : 0
Start Date : 09-26-0
Est Finish Date : 10-15-0
Act Finish Date :
Drawings Reqd : No
Ok for Approval :
Approval Rec'd :

Department Code:
Burden Flags : NNNNNNN
WO Status : Open
Invoice State : Not Invoiced
Invoice Date :
Invoice Number :
Invoice Amount : 0.00

Order Entry No :
OE Value : 0.00

Est Mark Up : 0.000%
Actual Mark Up : 0.000%

\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00		
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
===== ===== =====					
Burden :	0.00	0.00	0.00		
===== ===== =====					
Total Cost :	0.00	0.00	0.00		
Mark up :	0.000	0.000			
Selling Cost :	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/(Loss) :	0.00	0.00



Membre de / A Member of **Thomas&Betts**

180 LABROSSE AVENUE
POINTE CLAIRE, QC
H9R 1A1

CERTIFICATE OF COMPLIANCE

CERTIFICAT DE CONFORMITÉ

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7

CERTIFICATE NO. **1** OUR JOB NO **J0133548** SHIPPING MEMO **0324608**

ITEM	QUANTITY	PURCHASE ORDER	PART NUMBER	REV	NAME	DWG ISSUE
	10 PCS	2008720	D3138-2		COVER	B
MATERIAL		SUPPLIED BY			MAT. REL. NO.	
AL 2024-T3 (QQ-A-250/4)		SAMUEL SPECIALTY			0058764 ATT'D	

1	PROCESS	PROCESSOR	RELEASE NOTE #
2			
3			
4			
5			
6			
7			
8			
9			

WE HEREBY CERTIFY ALL THE PARTS COVERED BY THIS CERTIFICATE HAVE BEEN MANUFACTURED FROM MATERIAL SUPPLIED ON RELEASE NOTE SHOWN ABOVE AND THAT ALL PARTS HAVE BEEN INDIVIDUALLY INSPECTED AND CONFORM TO THE DRAWINGS AND PURCHASE ORDER REFERENCED ABOVE.

DATE **15 NOVEMBER 2005**

G.F.I. Q.C. REP.



**LES MÉTAUX
SPÉCIALISÉS**
SAMUEL

Programme d'Assurance Qualité Enregistré / Registered Q.A. Program
ISO 9001:2000 AS9100

LETTRE DE CONFORMITÉ –LETTER OF COMPLIANCE

Date: 10 MAI 2005

Company Name: G.F.I. Division of Thomas & Betts limited
Address: 180 avenue Labrosse
City: Pointe Claire, Qué.
Zip Code: H9R 1A1

du client: 0058764

de commande SSMQ: 841339

Customer's order #:

SSMQ's Order #:

La présente est pour certifier que le matériel détaillé ci-dessous est conforme aux exigences de votre commande et des normes du grade tel que décrit:

The following is to certify that the material listed below meets your order requirements and grade standards as described:

Notre/Our Item #	# de pièces/ # of pieces	Épaisseur/Grandeur Guage/Size	Alliage/Trempe Alloy/Temper	Spécification / Specification	Lot/Heat
7	1	.032" x 48" x 144"	2024 T3	AMS-QQ-A-250/4	226511

Bien à vous,
Yours truly,

José Raymond

Commis à l'administration.
Administration Clerk.



SHIP TO:
 LES METAUX SPECIALISES SAMUEL
 (SHIP TO)
 21525 CLARK GRAHAM
 BAIE D'URFE, PQ, CA H9X3T5

SOLD TO:
 SAMUEL SON & CO LTD
 2225 FRANCIS HUGHES
 LAVAL, PQ, CA H7S1N5

KAISER
ALUMINUM

Trentwood Works - Spokane, WA 99215
 Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
 4011938

CUSTOMER PO NUMBER:		CUSTOMER PART NUMBER:		SHIPPING RUN #/LOAD ID:		GOVT CONTRACT NUMBER:	
N16221				100089/2			
KAISER ORDER NO:	LINE ITEM:	SHIP DATE:		ALLOY:	CLAD:	TEMPER:	
1008983	1	9-JUL-2004		2024	BARE	T3	
WEIGHT SHIPPED:	QUANTITY:	B/L NUMBER:		GAUGE:	WIDTH:	LENGTH:	
3928 LB	173 PCS EST.	202031		0.0320 IN	48.00 IN	144.000 IN	

Certified Specifications

AMS 4037/RevN

AMS-QQ-A-250/4/RevA

ASTM B 209/Rev04

Test Results

Lot: 226511 Cast

Drop

Ingot

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	-T3	LT / 2 (Min:Max)	67.4 : 67.6 (465 : 466)	45.2 : 45.3 (312 : 312)	17.8 : 18.3

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	TOT	0.06
Actual	0.08	0.22	4.46	0.55	1.32	0.01	0.17	0.01	0.01	0.00	0.00	0.00	0.06

ALLOY LIMITS

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
2024 MIN	0.00	0.00	3.80	0.30	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.05
MAX	0.50	0.50	4.90	0.90	1.80	0.10	0.25	0.15	0.05	0.05	0.05	0.15

Aluminum Remainder

CERTIFICATION

KAISER ALUMINUM & CHEMICAL CORPORATION (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MANUFACTURED IN THE U.S.A. AND HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT-TREATED COMPLIES WITH AMS 2772 (MIL-H-3088). ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS ARE ON FILE, SUBJECT TO EXAMINATION. ISO-9001:2000 CERTIFIED

BILL POYNOR, LABORATORIES SUPERVISOR

Bill Poynor

Date: Thursday, 11/17/2005 1:14:26 PM
 User: Linda Lacelle

Process Sheet

Customer	CU-DAR001 Dart Helicopters Services			Drawing Name	COVER		
Job Number	24341			Part Number	D31382		
Estimate Number	10629			Drawing Number	D3138 REV B		
P.O. Number				Project Number			
This Issue	11/17/2005	S.O. No.	:	Drawing Revision	B		
Prsht Rev.	NC			Material			
First Issue	/ /	Type	PURCHASED PARTS	Due Date	11/30/2005	Qty:	10
Previous Run				Um:	Each		
Written By							
Checked & Approved By							
Comment	Est Rev: B 04.11.29 Made by Laser Cut KJ/RF						

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :	
1.0	PG	PURCHASING	
Comment: PURCHASING Issue P/O: _____ Email or Ship DXF file to vendo Laser Cut D3138-2 flat pattern per Dwg D3138 Possible Supplier: GFI or Industrial Laser Material release note is required			
2.0	D31382F	Cover	
3.0	PACKAGING 1	PACKAGING RESOURCE #1	
Comment: PACKAGING RESOURCE #1 Recieve & Inspect for Transit Damage Ensure Material Release Note is attached			
4.0	QC6	DIMENSIONAL CHECK	
Comment: DIMENSIONAL CHECK			
5.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1	
Comment: SMALL & MEDIUM FAB RESOURCE 1 Deburr Bend as per Dwg D3138			
6.0	HAND FINISHING1	HAND FINISHING RESOURCE #1	
Comment: HAND FINISHING RESOURCE #1 Chemical Conversion Coat as per QSI 005 4.1			

Date: Thursday, 11/17/2005 1:14:26 PM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: COVER

Job Number: 24341

Part Number: D31382

Job Number:



Seq. #: Machine Or Operation:

Description :

7.0 POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

8.0 QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

9.0 PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock with part number and batch number using fine point permanent ink marker as per view
B-B top surface Dwg D3138

10.0 DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

Job Completion



Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

Nov 08, 2005
11:44 am

Work Order No : 0024341
 Project Name : D3138-2
 Project For : WK542
 Work Order Type : Main
 Main WO Number :
 House Part Number : D3138-2
 Description : Cover
 Manufactured : Yes
 Amount Req'd : 10
 Amount Done : 0
 Start Date : 09-26-05
 Est Finish Date : 10-15-05
 Act Finish Date :
 Drawings Reqd : No
 Ok for Approval :
 Approval Rec'd :
 Department Code:
 Burden Flags : NNNNNNN
 WO Status : Open
 Invoice State : Not Invoiced
 Invoice Date :
 Invoice Number :
 Invoice Amount : 0.00
 Order Entry No :
 OE Value : 0.00
 Est Margin : 0.000%
 Actual Margin : 0.000%
 \$0 Posted to Finished Goods.

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00	0.00	0.00
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00	0.00	0.00
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00	0.00	0.00
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00	0.00	0.00
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00	0.00	0.00
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00	0.00	0.00
Misc. :	0.00	0.00	0.00	0.00	0.00
<hr/>					
Burden :	0.00	0.00	0.00	0.00	0.00
<hr/>					
Total Cost :	0.00	0.00	0.00	0.00	0.00
Margin :	0.000	0.000			
Selling Cost :	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/ (Loss) :	0.00	0.00

DART

DESIGN CP	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
	RF	
CHECKED <u> </u>	APPROVED <u> </u>	DRAWING NO. D3138
		SHEET 1 OF 1
		REV. C

RELEASER 8.0.12.50

SEE DETAIL C
(TYP 13 PLACES)

SEE DETAIL A

2.27
1.82
0.00
1.42
6.23
1.42
12.46
18.47
24.52
30.76
43.13
55.26
61.10
67.23
72.33

R0.25 (2 PLS)

0.90
R1.00
43.
0.41
2.16
0.52 (REF)
R1.00

VIEW B-B

BEND D3138-1 AS SHOWN
BEND D3138-2 OPPOSITE
SCALE 1:1

DETAIL C
LOCATION DIMENSION
TO CENTERLINE
SCALE 1:1 0.203

WORK ORDER NO. B3138-1

76.88 (77.14 FLAT LENGTH, REF)
R944
R1.00
1.34
R0.50
3.44 (REF)
R1.00
R0.50
2.40 (REF)

40.
1.00
R1.00
R0.50
B
B

DETAIL A
FLAT PATTERN SHOWN
SCALE 1:2

02.04.18 NEW ISSUE
04.09.20 RE-DESIGN
05.12.05 CORRECT VIEW B-B; ADD 2.49 DIM.

D3138-1 COVER (SHOWN, REPLACES PREMIER P/N B30-23000-205)
D3138-2 COVER (BEND OPPOSITE, REPLACES PREMIER P/N B30-23000-206)

- 1) MATERIAL: 2024-T3 SHEET (QQ-A-250/4) 0.032 THICK (REF DART SPEC. M2024T3S.032)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GREY SANDEX (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) IDENTIFY WITH DART P/N USING FINE POINT PERMANENT INK MARKER

D3138-1 COVER (SHOWN, REPLACES PREMIER P/N B30-23000-205)

D3138-2 COVER (BEND OPPOSITE, REPLACES PREMIER P/N B30-23000-206)

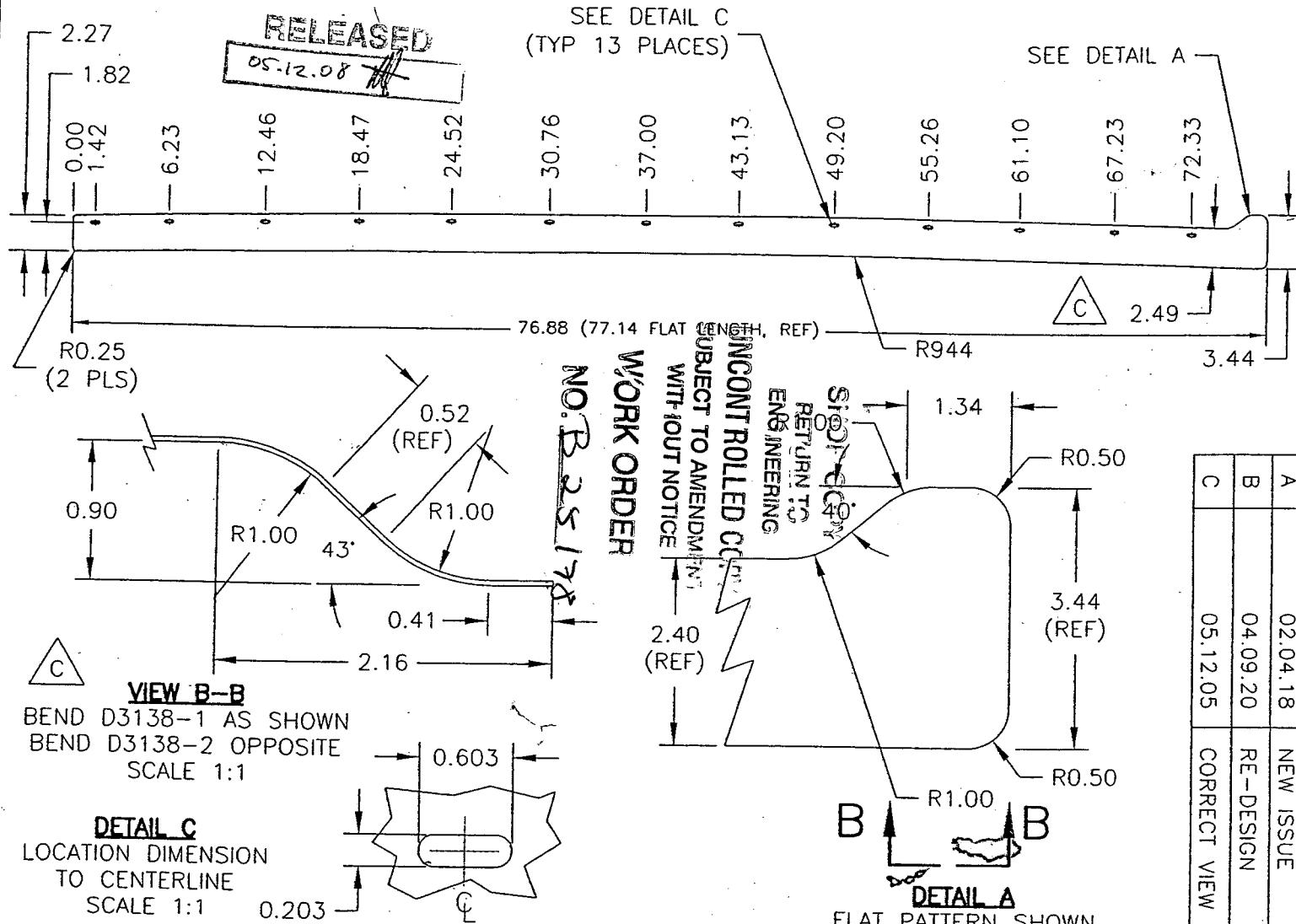
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- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) IDENTIFY WITH DART P/N USING FINE POINT PERMANENT INK MARKER

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DART

DESIGN CP	DRAWN BY RF	DART AEROSPACE LTD
CHECKED	APPROVED	DRAWING NO. D3138
05.12.05	02.04.18	NEW ISSUE
A		
B	04.09.20	RE-DESIGN
C	05.12.05	CORRECT VIEW B-B; ADD 2.49 DIM.

REV. C
SHEET 1 OF 1
SCALE 1:10

**D3138-1 COVER (SHOWN, REPLACES PREMIER P/N B30-23000-205)****D3138-2 COVER (BEND OPPOSITE, REPLACES PREMIER P/N B30-23000-206)**

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- 6) IDENTIFY WITH DART P/N USING FINE POINT PERMANENT INK MARKER